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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,561	02/08/2002	Klaus Hartig	44046.203.180.2	9865
22859	7590	05/28/2004	EXAMINER	
INTELLECTUAL PROPERTY GROUP FREDRIKSON & BYRON, P.A. 4000 PILLSBURY CENTER 200 SOUTH SIXTH STREET MINNEAPOLIS, MN 55402			GLESSNER, BRIAN E	
			ART UNIT	PAPER NUMBER
			3635	
DATE MAILED: 05/28/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/071,561

Applicant(s)

HARTIG ET AL.

Examiner

Brian E. Glessner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/3/2004, 3/12/2004, and 3/29/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27,29,31-33 and 35-44 is/are pending in the application.

4a) Of the above claim(s) 21-25 is/are withdrawn from consideration.

- 5) ☐ Claim(s) _____ is/are allowed.

- 6) ☒ Claim(s) 1-27,29,31-33 and 35-44 is/are rejected.

- 7) ☐ Claim(s) _____ is/are objected to.

- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 03 March 2004 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The following office action is in response to the amendment filed on March 3, 2004.

Claims 1-27, 29, 31-33, and 35-44 are pending in the application. Claims 28, 30, and 34 are cancelled, and claims 21-25 are withdrawn as being drawn to a non-elected invention.

Claim Objections

1. Claims 16 and 17 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitations of claims 16 and 17 are found in claim 12. Therefore, claims 16 and 17 fail to further limit claim 12.

Claim Rejections - 35 USC § 103

1. Claims 1, 2, 6, 7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thiel (5,873,203) in view of Cathers (4,587,769).

In regard to claim 1, Thiel discloses a transparent pane having generally opposed first and second major surfaces, each major surface bearing a functional coating, and having a peripheral region that is substantially free of the functional coating, figures 2-6. Thiel does not specifically disclose that both major surfaces have a peripheral region that is substantially free of the functional coating. Cathers teaches that it is known to remove a portion of functional coatings on glass sheets where adhesives or sealants are to be applied in order to provide direct contact with the glass and to prevent reaction with the coating, column 1, lines 26-34 and column 3, lines 56-67. Therefore, in light of Cathers' teaching, it would have been obvious to one having ordinary skill in the art at the time the invention was made to remove the coatings from the

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peripheral edges of both major surfaces of Thiel's glass sheets, because one having ordinary skill in the art would know, based on Cathers' teaching, that the coatings could interfere with the adhesives used to hold insulated glass units into the frames. Thus, if the coatings on the exterior edges of Thiel's glass sheets were not removed before the glass unit was adhesively secured into a frame, the coatings could, as taught by Cathers, break down the bond between the adhesive and the glass. Therefore, the seal between the frame and the glass would be broken and the window would need to be replaced.

In regard to claims 2 and 6, Thiel in view of Cathers disclose the basic claimed invention, wherein said coating on each surface is an active coating.

In regard to claims 3, 4, and 11, Thiel in view of Cathers disclose the basic claimed invention, wherein said active coating is a photocatalytic coating that comprises titanium oxide. Thiel teaches that it is known to provide a photocatalytic coating containing titanium oxide on a glass windowpane, abstract and column 11, lines 19-26.

In regard to claim 5, Thiel in view of Cathers disclose the basic claimed invention, wherein the functional coating is a low-emissivity coating. Thiel teaches that it is known to use low emissivity coatings on glass sheets, column 6, lines 4-13.

In regard to claim 7, Thiel in view of Cathers disclose the basic claimed invention, wherein said coating-free peripheral region on each major surface extends a predetermined distance inwardly from an edge of the substrate. The examiner would like to point out that any distance is a "predetermined" distance, i.e. the width of the grinding wheel is a given, or predetermined width. Therefore, the coating-free region produce by the grinding wheel has a predetermined width.

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In regard to claims 8 and 9, Thiel in view of Cathers disclose the basic claimed invention except for specifically disclosing that said predetermined distance is less than about 1 inch or about $\frac{1}{2}$ inch. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the predetermined distance less than about 1 inch or about $\frac{1}{2}$ inch, because said distance will be sufficient to apply adhesive to so that the glass sheet could be held in a window frame or adhered to a spacer as is well known in the art. By making the distance less than about 1 inch or about $\frac{1}{2}$ inch, the coating-free portion will not be visible when the glass sheet is used in a window unit.

In regard to claim 10, Thiel in view of Cathers disclose the basic claimed invention of a transparent pane. Claim 10 contains the same limitations as claims 1, 2, and 5 above. Therefore, claim 10 is rejected on the same grounds of rejection set forth above with respect to claims 1, 2, and 5.

In regard to claims 12, 16, and 17, Thiel discloses a multiple pane insulating glass unit 20 comprising two spaced apart panes 22, 24 and a spacer 38 joining confronting, inner peripheral surfaces of the panes, the spacer and the confronting surfaces of the panes together defining a between-pane space, at least one of the panes having an outer surface bearing a functional coating 50 or 52 (column 6, lines 4 and 5). Thiel does not specifically disclose that said outer surface has a peripheral region that is substantially free of the functional coating. Cathers teaches that it is known to remove coatings from glass sheets where adhesives or sealants are applied in order to provide direct contact with the glass to prevent a reaction with the film, column 1, lines 26-34, and column 3, lines 56-67. It would have been obvious to one having ordinary skill in the art at the time the invention was made to remove the coating from the outer

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surface peripheral edge of Thiel's glass sheets, because when the glass unit is placed in a frame, it will be able to be adhered to said window frame around the coating free peripheral edge portion. Therefore, one will not have to worry about a reaction taking place between the adhesive and the coating.

Thiel further teaches that said coating could be a low emissivity coating, column 6, line 9. Therefore, since Thiel discloses coatings 42, 44, 50 and 52 on the inner surfaces, the low-emissivity coating is on the inner surface. Further, the examiner would like to point out that the applicant even states that "low-emissivity coatings are well known in the present art," page 1, line 13.

Finally, Thiel in view of Cathers disclose that said coated inner surface has a peripheral region that is substantially free of said low-emissivity coating, figures 2-6.

In regard to claims 13-15, Thiel in view of Cathers disclose the basic claimed invention, wherein said coating is an active photocatalytic coating comprising titanium oxide, abstract and column 11, lines 19-26. The examiner would like to point out that although Thiel does not specifically refer to his coating as an "active coating," his coating has the same features as applicant's coating. Therefore, they are both active coatings.

In regard to claims 39 and 40, Thiel in view of Cathers disclose the basic claimed invention, wherein the functional coating is a photocatalytic coating, and the photocatalytic coating comprises titanium oxide.

In regard to claims 41 and 42, Thiel in view of Cathers disclose the basic claimed invention except for specifically disclosing that said low-emissivity coating comprises one or more infrared-reflective metallic layers formed of silver, or that the predetermined distance is

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about ½ inch. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use infrared-reflective layers and/or to make the space about ½ inch, since it has been held that where the general conditions of claim are disclosed in the prior art discovering the optimum or workable ranges involves only routine skill in the art. Further, one would make the space of a size that would correspond to the size of the frame.

In regard to the metallic layers, one having ordinary skill in the art would be capable of using any type of metallic layers they would see fit to reflect the light and heat from the window.

2. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thiel (5,873,203) in view of Cathers (4,587,769) and further Bobel (2,723,427).

In regard to claim 18, Thiel in view of Cathers disclose the basic claimed invention except for specifically disclosing a frame, wherein at least one edge region of the insulating glass unit is received, wherein a bead of glazing compound is disposed between a mounting surface of the frame and said coating-free peripheral region of the insulating glass unit. Bobel teaches that it is known to place a window unit comprising two panes of glass spaced by a spacer in a window frame and to apply a bead of glazing 39 between the frame and the window unit. It would have been obvious to one having ordinary skill in the art at the time the invention was made to place Thiel's window unit in Bobel's frame, because by having the window unit in the frame, it can be mounted in the opening of a building to provide light into the building.

In regard to claims 19 and 20, Thiel in view of Cathers and Bobel disclose the basic claimed invention except for specifically disclosing that said glazing compound comprises an organic material. Thiel teaches the use of polyisobutylene adhesive/sealant. Said

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adhesive/sealant comprises at least one organic compound, for example water. Said adhesive/sealant will also provide an excellent seal against water.

In regard to claims 37 and 38, Thiel in view of Cathers and Bobel disclose the basic claimed invention. Claims 37 and 38 are rejected on the same grounds of rejection set forth above with respect to claims 1, 10, 12, and 26.

3. Claims 26-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobel (2,723,427) in view of Thiel (5,873,203).

In regard to claim 26, Bobel discloses a glazing assembly comprising a transparent pane 11 or 12 having generally opposed first and second major surfaces, a frame 16 having two confronting shoulders and a base mounting surface together defining a channel in which at least one edge of the pane is received, one of the shoulders of the frame having a mounting surface against which said pane surface is retained, the frame having an inner edge that bounds a vision area of the glazing assembly, and a bead of glazing compound 20 disposed between the mounting surface of the frame and a peripheral region of said pane surface, the glazing compound being at least partially shielded from direct contact with the pane by a barrier layer 14 provided between said pane surface and the glazing compound, the barrier being sized, shaped, and positioned such that an inner edge of the barrier layer is outside the inner edge of the frame, the barrier layer thereby being entirely outside the vision area of the glazing assembly. Bobel does not specifically disclose that said pane surface has an active coating thereon. Thiel teaches the use of a window unit comprising at least one pane having an active coating thereon. It would have been obvious to one having ordinary skill in the art at the time the invention was made to

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substitute Thiel's window unit for Bobel's window unit, because Thiel's window unit is self-cleaning and will remove organic components from the glass sheet.

In regard to claim 27-32, Bobel in view of Thiel disclose the basic claimed invention, wherein Thiel further teaches that the active coating comprises titanium oxide, column 11, lines 19-26. Bobel in view of Thiel further disclose that said glazing compound comprises an organic material, i.e. water (Thiel). Therefore, the active coating will be degenerative to the organic glazing compound. Bobel in view of Thiel further disclose that the active coating is photocatalytic (Thiel's abstract). Thiel teaches the use of polyisobutylene adhesive/sealant. Said adhesive/sealant comprises at least one organic compound, for example water. Said adhesive/sealant will also provide an excellent seal against water. Said barrier layer comprises a material that is durable to the active coating. Thiel's glazing compound also comprises an inorganic material and provides a substantially water-proof seal between the mounting surface of the frame and the coated panel surface. The transparent pane is part of the multiple-pane insulating glass unit mounted in the frame.

In regard to claims 33-36 and 44, Bobel discloses a glazing assembly comprising a transparent pane 11 or 12 having generally opposed first and second major surfaces, a frame in which at least one edge of the pane is received, the frame having a mounting surface against which said pane surface is retained, and a bead of glazing compound 39 disposed between the mounting surface of the frame and a peripheral region of said pane surface, the glazing compound being in direct contact with the pane. Bobel does not specifically disclose that said pane surface has an active coating thereon comprising a photocatalytic coating comprising titanium oxide, or that said glazing is durable to the active coating, wherein said glazing material

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is comprised of a silicon compound, a phosphate, a fluorinated polymer, or a silicone based polymer. Thiel teaches the use of a window unit comprising at least one pane having an active coating thereon comprising a titanium oxide and a glazing compound in the form of polyisobutylene, which comprises an inorganic material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute Thiel's window unit and glazing compound for Bobel's window unit and glazing compound, because Thiel's window unit is self-cleaning and will remove organic components from the glass sheet. Further, Thiel's glazing compound will produce a watertight seal and be somewhat flexible to allow the window unit to expand and contract to a certain degree. Bobel in view of Thiel's transparent pane is also part of a multiple-pane insulating glass unit mounted in said frame. Although Thiel does not specifically disclose that his glazing compound is one of the ones listed above, he does teach that the glazing compound may be any type known in the art, column 6, lines 50-51. Therefore, Thiel teaches that one having ordinary skill in the art is capable of choosing the best-known adhesive for a particular situation. Thus, since the above adhesives, or glazing compounds, are known in the art, choosing one of the above compounds would be within the level of one having ordinary skill in the window art.

In regard to claim 43, Bobel in view of Thiel disclose the basic claimed invention except for specifically disclosing that the barrier layer comprises an optically transparent layer. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a transparent layer, because the layer is used in a window structure. Therefore, it would be beneficial to be able to see through said barrier.

Response to Arguments

4. Applicant's arguments with respect to the above claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian E. Glessner whose telephone number is 703-305-0031. The examiner can normally be reached on Monday-Friday 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl D. Friedman can be reached on 703-308-0839. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

B.G.
May 24, 2004

A handwritten signature in cursive script, appearing to read "Brian Glessner", with a long horizontal flourish extending to the right.

BRIAN E. GLESSNER
PRIMARY EXAMINER